

LISTING OF THE CLAIMS

At the time of the Action:

Pending Claims: 1-24

After this Response:

Canceled Claims: 1-24

New Claims: 25-49

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1.-24. (Canceled).

25. (New) A method, comprising:

providing a first local connection translation table to a first peer that is attached to a first network attachment point, the first peer being in a network connection with a second peer that is attached to a second network attachment point;

storing original connection specification of the first and second network attachment points to the first local connection translation table, the original connection specification including an original address and an original port for each attachment point;

storing updated connection specification of the first and second network attachment to the first local connection table when one of the first and second peer switches from the initial network attachment point to a new network attachment point, the updated connection specification including at least one of a new address or a new port that corresponds to the new network attachment point;

translating an outgoing connection specification of an outbound network protocol unit to the updated connection specification

using the first local connection translation table, when the outgoing connection specification corresponds to the original connection specification; and

sending the outbound network protocol unit from the first peer and the second peer via the new attachment point.

26. (New) The method claim 25, further comprising:

translating an incoming connection specification of an inbound network protocol unit to the original connection specification using the first local connection translation table, when the incoming connection specification corresponds to the updated connection specification; and

receiving the inbound network protocol unit on the first peer, wherein the inbound network protocol unit is sent from the second peer via the new attachment.

27. (New) The method of Claim 26, wherein the outbound network protocol unit is included in one of an outbound data stream from the first peer or a second peer, and wherein the inbound network protocol unit is included in an incoming data stream from the second peer to the first peer.

28. (New) The method of Claim 25, wherein each of the outbound network protocol unit and the inbound network protocol unit includes an Internet protocol (IP) datagram.

29. (New) The method of Claim 25, wherein each of the original addresses and the new address includes an Internet protocol (IP) address.

30. (New) The method of Claim 25, wherein each of the original ports and the new port includes one of a user control protocol (TCP) port or a user datagram protocol (UDP) port.

31. (New) The method of Claim 25, wherein the translating an outgoing connection specification includes at least one of replacing one of the original addresses with the new address or replacing one of the original ports with the new port.

32. (New) The method of Claim 25, wherein the translating an incoming connection specification includes at least one of replacing the new address with one of the original addresses or replacing the new port with one of the original ports.

33. (New) The method of Claim 25, wherein the method further comprises sending a connection update message from the first peer to the second peer when the first peer switches from the initial network attachment point to a new network attachment point, wherein the connection update messages includes the original connection specification and the updated specification.

34. (New) The method of Claim 33, further comprising:

providing a second local connection translation table to the second peer; and

updating the second local connection translation table with the updated specification from the connection update message.

35. (New) The method of Claim 33, wherein the sending of a connection update message further includes sending a connection update message comprising a cryptographic signature that authenticates the identity of the first peer.

36. (New) A tangible computer-readable data storage medium having thereon computer-executable instructions for performing a method comprising:

- providing a local connection translation table to a first peer that is attached to a first network attachment point, the first peer being in a network connection with a second peer that is attached to a second network attachment point;

- storing original connection specification of the first and second network attachment points to the local connection translation table, the original connection specification including an original address and an original port for each attachment point;

- storing updated connection specification of the first and second network attachment to the local connection table when one of the first and second peer switches from the initial network attachment point to a new network attachment point, the updated connection specification including at least one of a new address or a new port that corresponds to the new network attachment point;

- translating an incoming connection specification of an inbound network protocol unit to the original connection specification using the local connection translation table, when the incoming connection specification corresponds to the updated connection specification; and

receiving the inbound network protocol unit on the first peer, wherein the inbound network protocol unit is sent from the second peer via the new attachment.

37. (New) The tangible computer-readable data storage medium of claim 36, wherein the method further comprises sending a connection update message from the first peer to the second peer when the first peer switches from the initial network attachment point to a new network attachment point, wherein the connection update messages includes the original connection specification and the updated specification.

38. (New) The tangible computer-readable data storage medium of claim 36, wherein the sending of a connection update message further includes sending a connection update message comprising a cryptographical signature that authenticates the identity of the first peer.

39. (New) The tangible computer-readable data storage medium of claim 36, wherein the method further comprises publishing the switch of the first peer from the initial network attachment point to a new network attachment point to a virtual connectivity subscribe-notify service.

40. (New) The tangible computer-readable data storage medium of claim 39, wherein the publishing the switch comprises sending a publish message from the first peer to the virtual connectivity subscribe-notify service, the publish message comprising information that enables the second peer to determine the original connection specification and the updated specification.

41. (New) The tangible computer-readable data storage medium of claim 36, wherein the connection update message is sent between the first and second peers by being incorporated into a lower layer network protocol.

42. (New) The tangible computer-readable data storage medium of claim 41, wherein:

the lower layer network protocol is the Internet protocol (IP); and  
the connection update message is incorporated into the Internet protocol as at least one IP option.

43. (New) The tangible computer-readable data storage medium of claim 41, wherein:

the lower layer network protocol is the transmission control protocol (TCP); and  
the connection update message is incorporated into the transmission control protocol as at least one TCP option.

44. (New) The tangible computer-readable data storage medium of claim 41, wherein:

the lower layer network protocol is the user datagram protocol (UDP);  
and  
the connection update message is incorporated into the user datagram protocol by, at least, appending the connection update message data to a UDP datagram, the connection update message data formatted as for TCP options.

45. (New) A computing device comprising:

a local connection translation table that is configured to store an original connection specification for the computing device and a peer computing device in a table entry, the computing device being

- attached to a first network attachment point of a network connection, and the peer computing device being attached to a second network attachment point of the network connection, wherein the original connection specification including an original address and an original port for each attachment point; and
- a local connection translation component configured to store an updated connection specification of the first and second network attachment to the table entry when one of the first and second peer switches from the initial network attachment point to a new network attachment point, the updated connection specification including at least one of a new address or a new port that corresponds to the new network attachment point;
  - a first translation component to translate an outgoing connection specification of an outbound network protocol unit to the updated connection specification using the first local connection translation table, when the outgoing connection specification corresponds to the original connection specification; and
  - a second translation component to translate an incoming connection specification of an inbound network protocol unit to the original connection specification using the local connection translation table, when the incoming connection specification corresponds to the updated connection specification.

46. (New) The computing device of claim 45, wherein each of the original connection specification and the updated connection specification comprises a protocol setting, the protocol setting including one of a transmission control protocol (TCP) and a user datagram protocol (UDP).

47. (New) The computing device of claim 45, wherein the first translation component is further configured to, at least:

intercept the outbound network protocol unit; and

replace at least one of the original address or the original port of the outgoing connection specification with at least one of the corresponding new address or the new port.

48. (New) The computing device of claim 45, wherein the second translation component is further configured to, at least:

intercept the inbound network protocol unit; and

replace at least one of the new address or the new port of the incoming connection specification with at least one of the corresponding original address or the original port.

49. (New) The computing device of claim 45, further comprising a connection management component configured to, at least, receive a connection update message, the connection update message comprising the original connection specification, the updated specification, and a reference to the table entry.